NOAA REPORT

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News Briefs

N.E. Fishermen to Share in $2M Capacity Reduction Program: Thirteen New England fishermen have been selected for a $2 million program as part of Commerce Department and NOAA efforts to drastically reduce fishing and shore up depleted fish stocks in the region. The program will pay these fishermen to scrap their fishing vessels and surrender their fishing permits. "The decline of traditional Northeast fisheries resources requires drastically reduced fishing, and this program demonstrates one potential for helping resolve this dilemma," said Douglas K. Hall, NOAA assistant secretary for oceans and atmosphere. "We are laying the foundation for a larger capacity reduction effort.

"We hope to find a workable way to lessen the adversity fishery depletion will cause fishermen, their families and their local economies," added Rollie Schmitten, NMFS director. "This pilot program demonstrates there is a huge demand for our fishing capacity reduction efforts."

Ozone Depletion Over South Pole Continues: While ozone over the South Pole continues to decrease, the depletion is similar to last year, according to David Hofmann, acting director of NOAA's Climate Monitoring and Diagnostics Laboratory in Boulder, Colo.

Hofmann believes that ozone depletion at the South Pole should level off over

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Celebrating 25 Years of Science and Service

Happy Birthday NOAA!

October 1995

Dear Colleagues:

In this, the month of NOAA's 25th anniversary, I want to congratulate all of you for the fine work you've done throughout the years.

Although this year has presented more challenges than most, I feel proud to work alongside all of you, as we continue to do the job NOAA was established to, back in 1970—to observe, predict and protect our environment.

I'm sure that NOAA will build upon the accomplishments all of our employees, past and present, have made, so that the next 25 years will be just as exciting and productive as the first.

Sincerely,

Mary Baker

(Ed. Note: For more on milestones during NOAA's 25 years, see pages 4 and 5.)

Meteorologists Especially Concerned with Droughts

African Scientists Training at NWS

Leonard Unganai and Mahaman Saloum understand that climate and weather patterns cross national boundaries. Visiting from regional drought centers in Zimbabwe and Niger in Africa, the scientists are part of a United States effort to improve the performance of climate forecast models in the tropics, and to increase the ability of African nations to predict regional and climate fluctuations and their practical consequences.

Unganai and Saloum are visiting scientists at the African Desk at the National Weather Service's (NWS) Climate Prediction Center's (CPC) in Camp Springs, Md. They are contributing to the CPC mission of monitoring climate anomalies, analyzing and predicting them. Not only floods and heat waves in the American midwest, but droughts in Africa are a special concern of the NWS Climate Prediction Center. In particular, the El Niño-Southern Oscillation signal from the tropical pacific influences climate patterns in southern Africa, as well as in North America.

The first visiting scientist arrived at the African Desk in March 1995. The Desk will provide training for a half dozen African scientists every year. The scientists will return to their individual countries with a better understanding of operations, research developments, and climate products from knowledge acquired at CPC. In return, the weather service will receive feedback on ways to improve operational products in Africa and speed up communication in Africa and the tropics.

"The African Desk is helping us improve our direct cooperation with the meteorological community in Africa," said David Rodenhuis, Director of the NWS' Climate Prediction Center. "The exchange of data and climate products between the United States and Africa is extremely valuable in the study and understanding of global climate."

African scientists (clockwise from left) Wassila Thiao, Mahaman Saloum, Leonard Ungani and Vadlamani Kumar are studying at the NWS Climate Prediction Center in Camp Springs, Md.

Three Main Programs

Coordinated by Wassila Thiao, a climatologist from Senegal, and an NWS employee, Thomas Heddinghaus, the African desk oversees three main programs, including daily operations, research development, and training of African meteorologists. The central objective, however, is delivering routine products to support climate monitoring and prediction at African meteorological centers and to receive climatological data from the African weather centers.

The scientists are involved in a number of activities concerned with climate monitoring across Africa including issuing 10-day African weather summaries, special climate summaries, routine products on the Internet. These products are also distributed to African centers such as the African Center of Meteorological Applications for Development and the Drought Monitoring Centers in Nairobi, Kenya and Harare, Zimbabwe.

"Through the work of the visiting scientists, the African meteorological community now has direct access to climate products that help them develop regional long-range outlooks," added Rodenhuis. "In turn, we receive data and feedback on these products that allow us to continuously improve our operations."

Graphics on the Web

With the help of Vadlamani Kumar, computer scientist, Unganai and Saloum use color graphics to depict monthly and ten-day temperature and precipitation values for over 600

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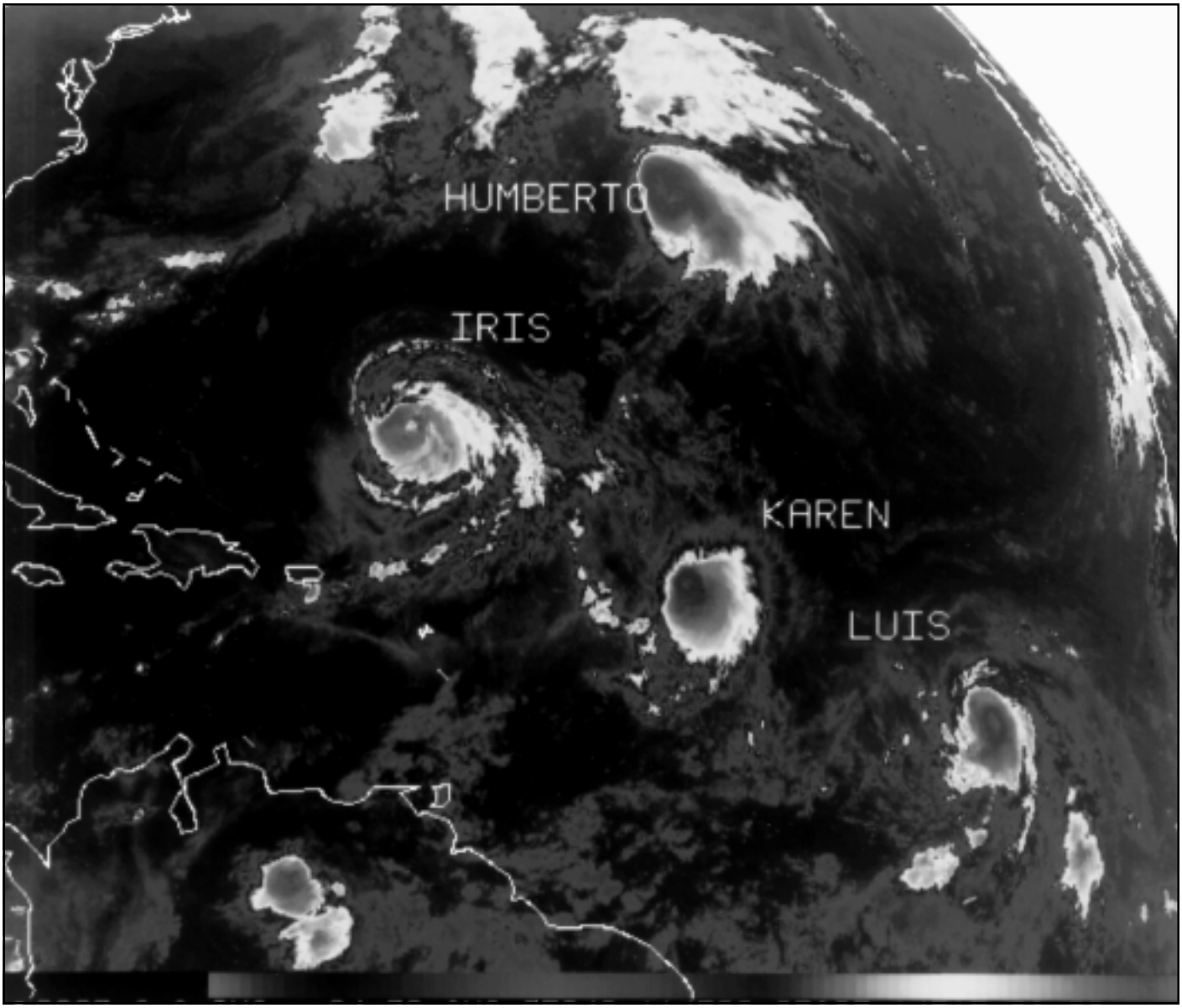

And it Wasn't Even Thanksgiving

As promised in the last issue of *NOAA Report*, here's a NOAA satellite photo of the famous "Parade of Storms," on August 30. The four storms in the Atlantic Ocean, are, from left to right, Hurricane Iris, Hurricane Humberto, Tropical Storm Karen and Hurricane Luis. In addition, the remnants of Tropical Storm Jerry were still over the U.S. at the time.

The photo was taken by the GOES-8 satellite in geosynchronous orbit 22,300 miles above the earth.

NOAA's 25th Anniversary

In its 25 years as a Federal agency, NOAA has achieved many significant scientific milestones and produced many important environmental contributions. Here are some of them:

MILESTONES IN FISHERIES

By far, the most significant development in fisheries in the past 25 year has been the Magnuson Fishery Conservation and Management Act, passed in 1976 in response to declines in U.S. commercial fishery catches and dramatic increases in foreign catches off U.S. coasts. This legislation, which established an exclusive U.S. Fishery Conservation Zone, gave NOAA the responsibility to manage the zone, adding to the agency's traditional research and information collection. It has dominated the nature and focus of most of NOAA's fisheries programs.

The Marine Mammal Protection Act of 1972 also drives other parts of NMFS. It prohibits the "taking"—catching or killing—and importing of any marine mammal or marine mammal product, unless an exception has been made. The Act establishes policy, sets guidelines for marine mammal protection, and provides for the long-term conservation and management of marine mammals.

To protect endangered and threatened sea turtles under the Endangered Species Act, NOAA mandated the use of Turtle Excluder Devices, or TEDs, in 1987 to protect the turtles from incidental capture and death in shrimp trawls in the Gulf of Mexico. TEDs are 97 percent effective in allowing the turtles to escape.

MILESTONES IN OCEAN SCIENCE

America's coasts have been one of the primary concerns of the National Ocean Service from its beginning. The Coastal Zone Management Act of 1972 established a significant partnership between NOAA and coastal states, with joint responsibilities for programs to ensure the wise use of coastal resources. Also, the Marine Protection, Research and Sanctuaries Act of 1972 gave NOAA the responsibility to establish and manage a network of national marine sanctuaries, to protect unique areas of ocean waters The first marine sanctuary was designated in 1975 off Cape Hatteras, N.C., to protect the wreckage of the Civil War ironclad ship *USS Monitor.*

The establishment of Exclusive Economic Zones, 200-mile coastal zones, under the Law of the Sea Treaty enlarged U.S. territory by 3.4 million square miles, giving NOAA the challenge of mapping an area greater than the land mass of the Nation.

Let's put this in perspe

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MILESTONES IN WEATHER SERVICES

The most significant event in the history of the National Weather Service is the current Modernization and Restructuring program. The upgrading of World War II-era weather radars to state of the art

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NEXRAD Doppler radars, which provide earlier warnings of severe weather, represents a tremendous scientific and practical advancement. Among the first Dopplers in use were at Sterling, Va.; Norman, Ok.; and Melbourne, Fl., where it aided in the efforts for Hurricane Andrew in August 1992 when the radars and satellite dishes at the National Hurricane Center were knocked out by the storm's 165 mile an hour winds.

Procurement for the Modernization program components, including the Automated Surface Observation System, ground-based Wind Profilers, and the Advanced Weather Interactive Processing System, began in 1980 and continues today.

The first Geostationary Operational Environmental Satellite (GOES) was launched in 1975. Two years later, in 1977, meteorological history was made as the last U.S. weather observation ship was retired, its role overshadowed by these weather satellites.

MILESTONES IN SATELLITES AND DATA

NOAA's first satellite, NOAA-1, a polar-orbiting environmental satellite, was launched in 1970, shortly after NOAA was established.

1974 saw the launch NOAA's first geostationary satellite, SMS-1, quickly followed the next year by GOES-1, the first in the GOES series of geostationary satellites.

The international satellite search and rescue program, COSPAS-SARSAT, was established in 1982. It has been responsible for rescuing hundreds of stranded mariners and pilots in distress since then.

A new era in international cooperation in the sharing of weather data took place in 1993 when a European weather satellite, Meteosat-3, completed a move to 75 degrees West, providing coverage of the U.S. when only one GOES satellite was operational.

The convergence of the polar-orbiting environmental satellite programs of NOAA, NASA and the Department of Defense into a single national system began in 1994 when NOAA formed the Integrated Program Office.

MILESTONES IN OCEANIC AND ATMOSPHERIC RESEARCH

Since moving to NOAA from the National Science Foundation in 1970, the National Sea Grant Program has established 29 programs at colleges, focusing on marine and coastal research, education, and technology transfer, with nearly 2,000 researchers, professors, students and specialists participating in hundreds of schools and research institutions.

As damage estimates from the 1982 El Niño topped several billion dollars, NOAA began participation in the Tropical Ocean and Global Atmosphere (TOGA) program, which aimed to describe how oceans and atmosphere interact creating short-term climate changes, and to determine whether those changes are predictable. The 10-year program began in 1985.

NOAA has had an active role in the work of the Russian-American Joint Commission on Economic and Technological Cooperation, also known as the Gore-Chernomyrdin Commission, begun by the U.S. Vice President and the Russian Prime Minister. The commission expands Russian-American cooperation across a broad range, including business development, energy, science and technology, environment, space, defense conversion and health. NOAA has been involved in negotiating a Russian-American statement of policy on the exchange of environmental and scientific information.

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Melvin Peterson, First Chief Scientist, Dies

Dr. Melvin N. A. Peterson, 66, former director of the international Deep Sea Drilling Project at Scripps Institution of Oceanography, University of California, San Diego, died of a heart attack on Sept. 20, 1995, while on a fishing trip in Mexico.

A resident of Del Mar, Calif., Peterson retired from the faculty of Scripps Institution in May 1987 and was appointed as the first chief scientist for the National Oceanic and Atmospheric Administration (NOAA) by then-President Ronald Reagan in Oct. 1987. As NOAA's chief scientist, he served as policy advisor on environmental issues, was the Reagan Administration's principal spokesman on ocean science and technology development, and managed several of NOAA's marine and atmospheric research programs. He served in that position for nearly two years.

Following his appointment at NOAA, Peterson served as the director of the Ocean Policy Institute of the Pacific Forum in Honolulu, Hawaii. The institute was created as part of the Center for Strategic and International Studies, a division of the U.S. government. He held that position until earlier this year.

OIS/UCSD

NOAA first Chief Scientist, Dr. Melvin Peterson, died last month at 66. (Above photo was taken in 1987.)

Peterson was currently an associate professor emeritus in the Scripps Institution Geosciences Research Division and had recently returned to Scripps to begin work on a written history of the Deep Sea Drilling Project, a program he was involved with for much of his tenure at Scripps.

Peterson was appointed chief scientist of the Deep Sea Drilling Project (DSDP) in 1967 and its director in 1971. He managed the overall direction of DSDP for a national and international consortium of oceanographic institutions.

"His insights into what constituted the solvable and first-order problems of the oceans' role in Earth history allowed him to guide DSDP into remarkable successes," said Dr. Edward D. Goldberg, Peterson's postdoctoral advisor and professor of chemistry emeritus at Scripps Institution.

For more than 15 years, the DSDP drilling ship Glomar Challenger explored the world's oceans, drilling and removing core samples from beneath the seafloor. Some of the most important ideas of modern earth science were confirmed from these operations, including dramatic changes in global climate, the theory of continental drift, and the origin's of Earth's major geological features.

"One of Mel's significant roles was his management of the Deep Sea Drilling Project," said Dr. William A. Nierenberg, director emeritus of

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Milestones in NOAA's 25 Year History

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MILESTONES IN THE NOAA CORPS

Among the many notable achievements of the NOAA Corps over its 25 years as part of NOAA, several examples show the breadth of its expertise.

The 1992 Persian Gulf expedition aboard the NOAA ship *Mt. Mitchell* was conducted in conjunction with 140 scientists from 14 countries and four continents, to address the disastrous oil spill following the Persian Gulf war. The NOAA Corps' Atlantic Marine Center and the ship's crew outfitted the ship in only three weeks and were able to keep the 28-year-old vessel operating halfway around the globe under arduous conditions. Among the four groups cited by the chief scientist for the success of the expedition were NOAA Corps officers and crew, and the administrative and technical staff of the Atlantic Marine Center.

Currently underway is a year-long NOAA cruise aboard the *Malcolm Baldrige*, under the command, management and technical support of NOAA Corps officers, to gather data integral to solving some of the world's most pressing environmental problems, including the greenhouse effect and global warming.

NOAA Corps' expertise reaches into turbulent skies as well. Corps pilots routinely fly into dangerous hurricanes to simultaneously conduct atmospheric research and reconnaissance. Data collected from these flights fill in gaps between radar and satellite coverage of the storms.

Feeding Dolphins Can Be a Fishy Business

Florida boaters who encourage the impressive antics of wild dolphins by feeding or swimming with the animals harm the dolphins and themselves—and may be fined for breaking the law.

According to reports received by NMFS, recreational boaters and swimmers have been injured when illegally feeding or swimming with wild dolphins off Florida. People have been sent to the hospital for stitches or medical attention due to severe bites and body strikes during interactions.

"Dolphins have a reputation for being friendly to humans, but the fact remains they are powerful, wild animals that can be very aggressive," said Nancy Foster, NMFS deputy director. "Feeding and swimming with dolphins may appear to be fun for humans, but can be very harmful to both the dolphins and the people."

NMFS officials are concerned about recreational boaters and others who continue to feed and swim with dolphins. Foster said that feeding these marine mammals can make them less able—or willing—to search for food on their own. In addition, she said, some food can pose a serious health risk and even death to the dolphins. NMFS officials have reports of people seen feeding dolphins beer, hot dogs and candy bars—items Foster called "totally inappropriate and harmful."

African Scientists Team With NWS to Study Continent's Weather

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stations across Africa. The graphics are made available on the Internet's World Wide Web *(http://nic.fb4.noaa.gov/products/african_desk/index.html)*. An experimental Aridity Index for Africa that incorporates temperature and precipitation departures from normal also is produced.

Satellite Fax Transmissions

Using satellite fax communications, the African Desk transmits monthly charts of mean and anomalous sea surface temperatures, outgoing long wave radiation, wind analyses, temperature, precipitation and El Niño/Southern Oscillation signals to drought monitoring centers in Nairobi, Kenya and Harare, Zimbabwe. Distribution by Internet is planned for the future.

In the recent past, other scientists from governments, private organizations, and universities in the U.S. have expressed an increasing interest for climate data and information in Africa. For example, in July 1994, during the civil war in Rwanda, the African Desk supplied the White House with climate outlooks for August in Gomma, Zaire. That information was helpful to the Administration in determining how to respond to that crisis.

Given the range of resources at the Climate Prediction Center, the African Desk is a potential research focus for detecting climate trends, evaluating the status of water resources, and improving methods of monitoring and predicting climate across Africa. In addition, the desk holds a number of historical climate data bases, for example, monthly mean precipitation and temperature data.

The African Desk also provides training for the visiting scientists in climate monitoring and prediction, data base development and quality control, and product development. The training program is coordinated by the NWS's International Activities Office through the World Meteorological Organization Voluntary Cooperation Program. The program's objective is to train scientists from other countries at United States government agencies.

The African desk is part of an important international program at the NWS that includes a South American Desk established in December 1989 and a Tropical Desk established in May 1993. Unganai and Soloum are an important part of the NWS objective to improve weather and climate services around the world.

—Stephanie Kenitzer

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the next few years, and that the positive effects of the Montreal Protocol will cause a healing of the ozone layer, to begin early in the next century. The Montreal Protocol is a 1987 international agreement to reduce the global production of ozone-depleting substances.

On Oct. 5, balloon soundings indicated a total ozone value of 98 Dobson units (DU) in the column of air above the measuring site at the South Pole. Hofmann says this is only slightly less than the 102 DU recorded in October 1994 and somewhat more than the record low of 91 DU observed in October 1993.

News Briefs

Scripps to Focus Research on Marine Life off Hawaii: The Federal government has given the Scripps Institution of Oceanography of La Jolla, Calif., approval for a two-year research project to determine the effects of low-frequency sound on marine animals in an area nearly 15 kilometers north of Kauai, Hawaii.

Scripps is authorized to conduct a proposed two-year project north of Haena Point, Kauai, that will attempt to assess and evaluate the potential effects of certain sound transmissions on the distribution and behavior of marine animals, and to identify ways to avoid any potential disruption that the transmissions may cause. This project is part of a larger effort by Scripps to monitor long-term changes to ocean temperature by measuring transmission times of low frequency sound.

Scripps must follow 26 special measures to protect marine mammals and sea turtles, including safeguards to shut down the sound source immediately if any adverse effects are observed.

NOS Employees of the Year Named

NOS Assistant Administrator Dr. Stanley Wilson (left) gives Billy Causey (right) the award as one of three National Ocean Service Employees of the Year.

National Ocean Service chief Dr. Stanley Wilson named three people as NOS Employees of the Year recently. Those honored were Karen J. Lomax, Office of Aeronautical Charting and Cartography in the administrative category, Jeffrey E. Maddox, cartographer, Office of Aeronautical Charting and Cartography, in the professional/non-supervisory category, and Billy Causey, superintendent, Florida Keys National Marine Sanctuary in the managerial/supervisory category.

Also recognized at the ceremony was Carol Beaver, director of the Office of Aeronautical Charting and Cartography for her 45 years of service.

1st Chief Scientist Dies at 66

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Scripps Institution of Oceanography. "This was the outstanding geophysical program of the century, and Mel, undoubtedly, was the major contributor to the success of this program."

A native of Northbrook, Ill., Peterson received his B.S and M.S. degrees in geology from Northwestern University in Evanston, Ill. He received his Ph.D. from Harvard University in 1960. He has received numerous awards and honors throughout his distinguished scientific career.

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Address comments to:
Editor
NOAA Report
Office of Public and Constituent Affairs
14th St. & Constitution Ave. NW
Room 6013 HCHB
Washington, DC 20230-0001
202-482-6090 *(voice)*
202-482-3154 *(fax)*
Banyan E-Mail: jerrys@pa@noaa
Internet: jslaff@hq.noaa.gov
CompuServe: 70762,3151
Lori Arguelles ... Director, Office of Public & Constituent Affairs
Jerry Slaff ..... Editor
Janet Amber ..... Associate Editor